

6550\_000072 Sequence Listing ST25 5-24-06.txt  
SEQUENCE LISTING

<110> Board of Trustees Operating Michigan State University  
Allison, Richard F.

<120> Expression of a Recombinant Transgene.

<130> 6550-000072/US/NPB

<140> US 10/561,720  
<141> 2005-12-22

<150> PCT/US04/21451  
<151> 2004-07-02

<150> US 60/485,073  
<151> 2003-07-03

<160> 15.

<170> PatentIn version 3.3

<210> 1  
<211> 26  
<212> DNA  
<213> Cowpea chlorotic mottle virus

<400> 1  
aagtggatcc cctcttgtgc ggctgc 26

<210> 2  
<211> 16  
<212> DNA  
<213> Cowpea chlorotic mottle virus

<400> 2  
actccaaaga gttctt 16

<210> 3  
<211> 835  
<212> DNA  
<213> Cauliflower mosaic virus

<400> 3  
agattagcct tttcaatttc agaaagaatg ctaaccaca gatgggttaga gaggcttacg 60  
cagcaggtct catcaagacg atctacccga gcaataatct ccaggaaatc aaataccttc 120  
ccaagaaggt taaagatgca gtcaaaagat tcaggactaa ctgcatcaag aacacagaga 180  
aagatatatt tctcaagatc agaagtacta ttccagtatg gacgattcaa ggcttgcttc 240  
acaaccaaag gcaagtaata gagattggag tctctaaaaa ggtagttccc actgaatcaa 300  
aggccatgga gtcaaagatt caaatagagg acctaacaga actcgccgta aagactggcg 360  
aacagttcat acagagtctc ttacgactca atgacaagaa gaaaatcttc gtcaacatgg 420  
tgagacacga cacacttgtc tactccaaaa atatcaaaga tacagtctca gaagacaaaa 480  
gggcaattga gacttttcaa caaagggtaa tatccggaaa cctcctcgga ttccattgcc 540  
cagctatctg tcactttatt gtgaagatag tggaaaagga aggtggctcc taaaaatgcc 600  
atcattgcga taaaggaaag gccatcggtg aagatgcctc tgccgacagt ggtcccaaag 660

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atggaccccc acccacgagg agcatcgtgg aaaaagaaga cgttccaacc acgtcttcaa 720  
agcaagtgga ttgatgtgat atctccactg acgtaagggg tgacgcacaa tccactatc 780  
cttcgcaaga cccttcctct atataaggaa gttcatttca tttggagaga acacg 835

<210> 4  
<211> 581  
<212> DNA  
<213> Encephalomyocarditis virus

<400> 4  
aattccgccc ctctccctcc ccccccccta acgttactgg ccgaagccgc ttggaataag 60  
gccggtgtgc gtttgtctat atgtgatttt ccaccatatt gccgtctttt ggcaatgtga 120  
gggcccggaa acctggccct gtcttcttga cgagcattcc taggggtctt tccccctctg 180  
ccaaaggaat gcaaggctctg ttgaatgtcg tgaaggaagc agttcctctg gaagcttctt 240  
gaagacaaac aacgtctgta gcgacccttt gcaggcagcg gaacccccca cctggcgaca 300  
ggtgcctctg cggccaaaag ccacgtgtat aagatacacc tgcaaaggcg gcacaacccc 360  
agtgccacgt tgtgagttgg atagttgtgg aaagagtcaa atggctctcc tcaagcgtat 420  
tcaacaaggg gctgaaggat gcccagaagg taccattg tatgggatct gatctggggc 480  
ctcggtgac atgctttaca tgtgtttagt cgagggtaaa aaaacgtcta ggccccccga 540  
accacgggga cgtgggtttc ctttgaaaaa cacgatgata a 581

<210> 5  
<211> 581  
<212> RNA  
<213> Encephalomyocarditis virus

<400> 5  
aaauccgccc cucuccucc cccccccua acguuacugg ccgaagccgc uuggaauaag 60  
gccggugugc guuugucuau augugauuuu ccaccauauu gccgucuuuu ggcaauguga 120  
gggcccggaa accuggcccu gucuucuuga cgagcauucc uaggggucuu uccccucucg 180  
ccaaaggaau gcaaggucug uugaaugucg ugaaggaagc aguuccucug gaagcuucuu 240  
gaagacaaac aacgucugua gcgaccuuu gcaggcagcg gaacccccca ccuggcgaca 300  
ggugccucug cggccaaaag ccacguguau aagauacacc ugcaaaggcg gcacaacccc 360  
agugccacgu ugugaguugg auaguugugg aaagagucaa auggcucucc ucaagcguau 420  
ucaacaaggg gcugaaggau gcccagaagg uaccccauug uaugggaucu gaucuggggc 480  
cucggugcac augcuuuaa uguguuuagu cgagguuaaa aaaacgucua ggccccccga 540  
accacgggga cgugguuuuc cuuugaaaaa cacgaugaua a 581

<210> 6  
<211> 581  
<212> DNA  
<213> Encephalomyocarditis virus

<400> 6  
ttatcatcgt gtttttcaaa ggaaaaccac gtccccgtgg ttcggggggc ctagacgttt 60

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|  |     |
|--|-----|
| ttttaacctc gactaaacac atgtaaagca tgtgcaccga ggccccagat cagatcccat  | 120 |
| acaatggggg accttcttggg catccttcag ccccttggtg aatacgcttg aggagagcca | 180 |
| tttgactcct tccacaacta tccaactcac aacgtggcac tggggttgtg ccgcctttgc  | 240 |
| aggtgtatct tatacacgtg gcttttggcc gcagaggcac ctgtcgccag gtgggggggtt | 300 |
| ccgctgcctg caaaggggtc ctacagacgt tgtttgtctt caagaagctt ccagaggaac  | 360 |
| tgcttccttc acgacattca acagaccttg cattcctttg gcgagagggg aaagaccctt  | 420 |
| aggaatgctc gtcaagaaga cagggccagg tttccgggcc ctcacattgc caaaagacgg  | 480 |
| caatatggtg gaaaatcaca tatagacaaa cgcacaccgg ccttattcca agcggcttcg  | 540 |
| gccagtaacg ttaggggggg gggagggaga ggggcggaat t                      | 581 |

<210> 7  
 <211> 581  
 <212> RNA  
 <213> Encephalomyocarditis virus

|  |     |
|--|-----|
| <400> 7  |     |
| uuaucaucgu guuuuucaaa ggaaaaccac guccccgugg uucggggggc cuagacguuu  | 60  |
| uuuuuaccuc gacuaaacac auguaaagca ugugcaccga ggccccagau cagaucuccau | 120 |
| acaauggggg accuucuggg cauccuucag ccccuuguug aaauacgcuug aggagagcca | 180 |
| uuugacucuu uccacaacua uccaacucac aacguggcac uggggguugug ccgccuuugc | 240 |
| agguguaucu uauacacgug gcuuuuggcc gcagaggcac cugucgccag guggggggguu | 300 |
| ccgcugccug caaagggucg cuacagacgu uguuugucuu caagaagcuu ccagaggaac  | 360 |
| ugcuuccuuc acgacauuca acagaccuug cauuccuuug gcgagagggg aaagaccccu  | 420 |
| aggaaugcuc gucaagaaga cagggccagg uuuccgggcc cucacauugc caaaagacgg  | 480 |
| caauauggug gaaaauca uauagacaaa cgcacaccgg ccuuauucca agcggcuucg    | 540 |
| gccaguaacg uuaggggggg gggagggaga ggggcggaau u                      | 581 |

<210> 8  
 <211> 242  
 <212> DNA  
 <213> Cowpea chlorotic mottle virus

|   |     |
|---|-----|
| <400> 8   |     |
| agtgcccgct gaagagcggt acactagtgt ggcctacttg aaggctagtt ataaccgttt | 60  |
| ctttaaacgg taatcgttgt tgaaacgtct tccttttaca agaggattga gctgcccttg | 120 |
| ggttttactc cttgaaccct tcggaagaac tctttggagt tcgtaccagt acctcacata | 180 |
| gtgaggtaat aagactggtg ggcagcgctt agtcgaaaga ctaggtgatc tctaaggaga | 240 |
| cc  | 242 |

<210> 9  
 <211> 242  
 <212> RNA  
 <213> Cowpea chlorotic mottle virus

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<400> 9  
agugcccgcgcu gaagagcgguu acacuagugu ggccuacuug aaggcuaguu auaaccguuu 60  
uuuuuaacgg uaaucguugu ugaaacgucu uccuuuuaca agaggauuga gcugcccuug 120  
gguuuuacuc cuugaacccu acggaagaac ucuuuggagu ucguaccagu accucacaua 180  
gugagguaau aagacuggug ggcagcgccu agucgaaaga cuaggugaug ucuaggaga 240  
cc 242

<210> 10  
<211> 242  
<212> DNA  
<213> Cowpea chlorotic mottle virus

<400> 10  
ggtctcctta gagatcacct agtctttcga ctaggcgctg cccaccagtc ttattacctc 60  
actatgtgag gtactggtac gaactccaaa gagttcttcc gaagggttca aggagtaaaa 120  
cccaagggca gctcaatcct cttgtaaaag gaagacgttt caacaacgat taccgtttaa 180  
agaaacgggtt ataactagcc ttcaagtagg ccacactagt gtaacgctct tcagcgggca 240  
ct 242

<210> 11  
<211> 242  
<212> RNA  
<213> Cowpea chlorotic mottle virus

<400> 11  
ggucuccuua gagaucaccu agucuuucga cuaggcgcuu cccaccaguc uuauuaccuc 60  
acuaugugag guacugguac gaacuccaaa gaguucuucc gaagguuca aggaguaaaa 120  
cccaagggca gcucaauccu cuuguaaaag gaagacguuu caacaacgau uaccguuuua 180  
agaaacgguu auaacuagcc uucaaguagg ccacacuagu guaacgcucu ucagcgggca 240  
cu 242

<210> 12  
<211> 12  
<212> DNA  
<213> Artificial

<220>  
<223> Artificial sequence used to show antisense relationship of a gene  
and IRES to a promoter and viral 3' UTR

<220>  
<221> misc\_feature  
<222> (1)..(3)  
<223> n is a, c, g, or t

<400> 12  
nnncatggaa tt 12

<210> 13  
<211> 12

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<212> DNA
<213> Artificial

<220>
<223> Complement of artificial sequence used to show antisense
      relationship of a gene and IRES to a promoter and viral 3' UTR

<220>
<221> misc_feature
<222> (10)..(12)
<223> n is a, c, g, or t

<400> 13
aattccatgn nn                                     12

<210> 14
<211> 12
<212> RNA
<213> Artificial

<220>
<223> Transcript of RNA polymerase

<220>
<221> misc_feature
<222> (1)..(3)
<223> n is a, c, g, or u

<400> 14
nnncauggaa uu                                     12

<210> 15
<211> 12
<212> RNA
<213> Artificial

<220>
<223> Complement of transcript of RNA polymerase

<220>
<221> misc_feature
<222> (10)..(12)
<223> n is a, c, g, or u

<400> 15
aaauccaugn nn                                     12

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